

Regulatory Guidelines for Mycotoxins

ppb = parts per billion • ppm = parts per million

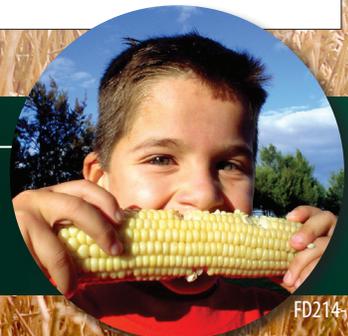


AFLATOXIN	
If commodity is destined for use in...	...then FDA can support enforcement action if aflatoxin levels exceed:
Human food	20 ppb
Feed for immature livestock and poultry (such as broilers)	
Feed for dairy animals	
Undetermined destinations	
Feed for breeding cattle or swine	100 ppb
Mature poultry (such as laying hens)	
Feed for finishing swine (weighing 100 lbs or more)	200 ppb
Feed for finishing beef cattle	300 ppb
Cottonseed meal for beef cattle, swine or poultry	
Milk	<0.5 ppb (aflatoxin M-1)

FUMONISIN	
The FDA's "Guidance for Industry" levels:	
Dry milled corn	< 2.5% fat: 2 ppm > 2.5% fat: 4 ppm
Bran	4 ppm
Popcorn	3 ppm
Equine and rabbit	5 ppm; no more than 20% of diet
Swine and catfish	20 ppm; no more than 20% of diet
All other species or classes of livestock and pets	10 ppm; no more than 50% of diet

DON	
The FDA recommends the following maximum levels:	
Human food (levels apply to finished wheat products including flour, bran and wheat germ)	1 ppm
Animal feed: Grains and grain by-products	
Ruminating beef cattle and feedlot beef cattle older than 4 mos.	10 ppm <10 ppm in total ration
Dairy cattle older than 4 mos.	10 ppm <5 ppm in total ration
Chickens	10 ppm <50% of diet
Swine	5 ppm <20% of diet
All other animals	5 ppm <40% of diet
Animal feed: Distillers and brewers grains, gluten feed and meals derived from grains	
Ruminating beef and feedlot cattle older than 4 mos.	30 ppm <10 ppm in total ration
Dairy cattle older than 4 mos.	30 ppm <5 ppm in total ration

OCHRATOXIN • T-2 • ZEARELENONE	
Levels of concern:	
The poultry industry often screens for ochratoxin at 10–20 ppb, and T-2 levels over 150 ppb are a concern.	
The swine industry has voiced concern for levels of zearalenone 250–500 ppb.	



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